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closely together. As stated above, the usual number appears to be four.

Scattered in numerous places among the wood cells are little opaque spheres of an intensely black substance (shown in figure 4) which is probably amber. Two contiguous cells split apart and in the interval the spheres or drops occur. This intimate association of these, as well as that of the undoubted pieces of amber, leave no doubt that they are found in connection with the tree which produced them.

This amber-producing tree was of course coniferous, but the poor state of preservation renders its generic determination more or less open to question. The Baltic amber-producing trees, of which some six species are known from studies of the internal structure, were pines (Pinites), but no evidence could be found to show that the one under discussion belonged to this group. Indeed, it is hardly to be expected that the genus would have had the same peculiarities from the lower cretaceous to the oligocene, the age to which the Baltic amber belongs. The large resin tubes and compound medullary rays are characters of the pine group, but are absent in this. On the other hand, as nearly as can be made out, the structure is that of Sequoia or Cupressinoxylon as the wood is known in the fossil state. It is very much like certain lignites that have been described from the Potomac formation, but of which too little is still known. This view is further strengthened when it is remembered that some fifteen species of Sequoia are already known, from the researches of Fontaine, to have lived during Potomac times.

I venture to propose for this American amber-producing tree the provisional name of *Cupressinoxylon? Bibbinsi*, in honor of the collector, who has done so much to elucidate the complex history of the Potomac formation and its vegetation.

F. H. Knowlton.
U. S. National Museum, Washington, D. C.

*ZOÖLOGICAL NOMENCLATURE--A PROPOSAL.**

The discussion on zoölogical nomenclature, which was held, as announced in our last number, by the Zoölogical Society of London on March 3d, was introduced to a crowded meeting by Mr. P. L. Sclater, F. R. S., in a concise and careful paper, and the points to which he drew attention were warmly debated beyond the usual hour. The discussion dealt with certain differences between the rules drawn up by the German Zoölogical Society for the guidance of the compilers of the Synopsis of the Animal Kingdom ('Das Tierreich') which that Society is preparing, and the rules known as the Stricklandian Code, which for many years governed, or were supposed to govern, the usage of British naturalists. The discussion turned chiefly upon the following questions: First, may the same generic names ever be used for both animals and plants? Secondly, may the same term be used for the generic and trivial name of a species, as in the well-known instance of *Scomber scomber?* Thirdly, are we to adopt as our starting point the tenth edition of Linné's *Systema Naturæ* in preference to the twelfth edition? These questions are answered in the affirmative by the German code, and in the negative by the original Stricklandian. We do not propose to discuss them here: it is natural that there should still be found, especially among the older zoölogists of this country, many to support the old-established British practices; in this, as in all other matters of nomenclature, convenience, not principle, is concerned, and it cannot be gainsaid that the general usage of zoölogists, at all events in other parts of the world, becomes daily more and more in harmony with the rules adopted by the German Society.

Were we again to open our pages to the discussion of this thorny subject, we should

*From proof sheets of an editorial article in *Natural Science.*

probably prefer, as did many of those who spoke at the Zoölogical Society's meeting, to discuss points that appear of more vital importance; but after listening to the various ingenious arguments, and to the animated rhetoric, punctuated by shouts of applause, that were poured forth the other evening, we felt more inclined than ever to doubt the value of these discussions. There are, it appears to us, fundamental defects that so far have pervaded all of them. A casual glance at the list of modern codes of nomenclature exhibited by Mr. Sclater was enough to show how very limited has been the authority of those bodies that have, from time to time, ventured to suggest laws for the zoölogical world. Either it is a committee of a section of the British Association, or it is the Zoölogical Society of France, or of Germany; or, again, at one moment we find the ornithologists meeting in conclave, at another the paleontologists, at yet another the neontologists; even when we see a code drawn up and passed by two International Congresses of zoölogy, we must not, as the President pointed out, flatter ourselves that more than a very few of the actual workers have assented, or have even been consulted. Consequently, the best of the codes that has yet been proposed (and which that be, each reader must decide for himself) has lacked the authority and the sanction that alone can make it of value. For we must insist upon this point, if upon no other, that it is not the wording of any particular law that is of consequence, but the power of enforcing it. We venture to say that to the very best code that could possibly be drawn up each individual zoölogist would remain a recalcitrant, were it only in so trivial a point as the insertion of a comma or the use of a capital letter.

If it be true that we come to some such *impasse* in whatever direction we proceed, it is worth considering whether we cannot follow some course more productive of finality than is this perpetual codifying of our whims and fancies. And here we would take up and push to their logical conclusion the suggestions that were thrown out at the meeting by Mr. H. J. Elwes and the President. It is not enough to imitate Mr. Elwes, and to follow the last monograph or the last catalogue of some great museum; for other monographers will arise, and rival museums will publish rival catalogues, each with its own system of nomenclature. Nor is it of much use to follow those British ornithologists of whom the President told us, who some years ago made a vow to adopt such and such fixed names for all the British birds; for the science of zoölogy is not confined to these islands, and those who withdraw from the main stream of progress will either find themselves left high and dry, or be forced to rejoin it as laggards and out-of-date. But the course that might be pursued is suggested to us by this very enterprise of the German Zoölogical Society. Let us suppose that, instead of shrinking from the magnitude of the undertaking, instead of insinuating its impossibility, and instead of drawing their purse-strings tighter, the zoölogists of the world were to give a mandate to the German Zoölogical Society to proceed with the work, and were to assist them generously by every means in their power, then we should have a complete set of names for all living species of animals. This, it is true, would not be enough. To draw up such a correct list of names without consulting the paleontologists is impossible, and, even were such a list drawn up, it would, for the purpose we now intend, be valueless. But let us further suppose that some body, such as the German or the English Zoölogical Society, could be found to draw up a list of all animal species, fossil as well as recent, then it would at all events be perfectly possible for the zoölogists of the world to accept that list, and to

say: "Whether these names be right or wrong according to this or that code of nomenclature, we do not know and we do not care; but we bind ourselves to accept them in their entirety, and we hereby declare that the date when this list was closed for the press shall henceforward be the date adopted as the starting point for our nomenclature."

We have put this proposition in a broad manner; there are, of course, numerous minor points to be taken into consideration. The preparation of a mere list would be an enormous undertaking; we learn from Dr. David Sharp and the workers on the *Zoölogical Record* that there are 386,000 recent species; no one has reckoned the number of extinct species. Some such work as the 'Index generum et specierum animalium,' now being compiled with a minimum of support and under constant difficulties by Mr. Charles Davies Sherborn, must form the basis of any such synopsis as that here proposed. The first duty of naturalists is to help Mr. Sherborn, who works at the British Museum under a Committee of the British Association. We also have to consider what is to be done when our list is completed. First of all, it must constantly be kept up to date. It seems to us that some restriction will have to be laid upon the place and manner of publication of new specific names, and we would suggest that, when the time comes, no specific name should be recognized unless it be entered by the author at some central office, together with a properly published copy of the work in which the description appears. The name would then be checked, dated, and placed at once in the index.

It is not contended that the acceptance of our proposal would obviate the need for a code of nomenclature. But it would be a far simpler code, free from the doubt as to whether its rules were to be retrospective; and its action would be uniform and stringent. Nor is it contended that the validity of a name carries with it the validity of a species. For the stability of nomenclature, it would be advisable to include in the list as many names as possible, and to leave to specialists the duty of deciding on the distinctness and systematic position of species. But whether our aim be the completion of an Index, the compilation of a Synopsis, or the construction of a Code, it is necessary that there should be absolute and loyal coöperation between zoölogists of every kind and every country, since by this means alone can the required sanction be obtained.

CURRENT NOTES ON ANTHROPOLOGY.

THE CHILD MIND AND THE SAVAGE MIND.

Prof. James Sully, who fills the chair of 'philosophy of mind,' in University College, London, makes it a point in his recent work, 'Studies of Childhood,' to institute frequent comparison between the mental action of children and of savage adults. A few of his conclusions may be mentioned:

On the important question of the origin of languages he is not quite positive. He believes children 'show the germs of true grammatical feeling,' and believes "they might develop the rudiments of a vocal language;" but elsewhere quotes with seeming approval Max Müller's assertion that they could not do this, 'if left to themselves;' which begs the whole question. Unfortunately, Prof. Sully has not read Mr. Horatio Hale's admirable studies. He quotes them only at second hand.

Death presents itself to the child just as the savage. It is not annihilation, but a continued existence, partly with the body, partly separate from it. The lower animals live after death just as do human beings. The individuality to the child, as to the savage, is multiple, not single, whether in life or death.

The colors first recognized and most en-